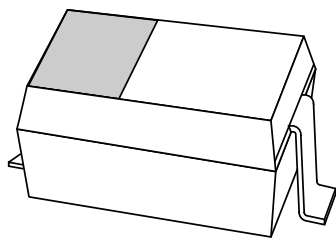


DISCRETE SEMICONDUCTORS

DATA SHEET



BAP64-03 Silicon PIN diode

Product specification
Supersedes data of 1999 Jul 01

1999 Aug 27

Silicon PIN diode**BAP64-03****FEATURES**

- High voltage, current controlled
- RF resistor for RF attenuators and switches
- Low diode capacitance
- Low diode forward resistance
- Low series inductance
- For applications up to 3 GHz.

APPLICATIONS

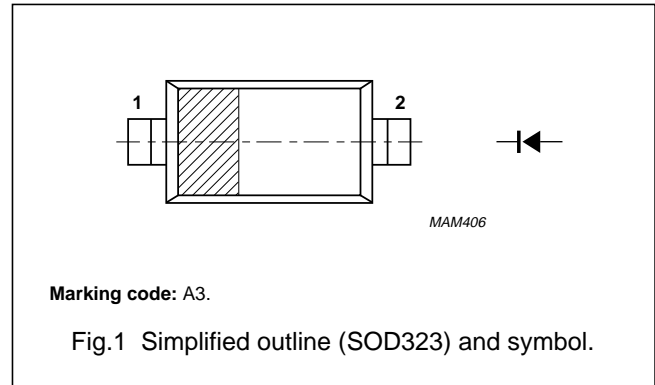
- RF attenuators and switches.

DESCRIPTION

Planar PIN diode in a SOD323 very small plastic SMD package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode

**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	175	V
I_F	continuous forward current		–	100	mA
P_{tot}	total power dissipation	$T_s = 90\text{ }^\circ\text{C}$	–	500	mW
T_{stg}	storage temperature		–65	+150	$^\circ\text{C}$
T_j	junction temperature		–65	+150	$^\circ\text{C}$

Silicon PIN diode

BAP64-03

ELECTRICAL CHARACTERISTICST_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V _F	forward voltage	I _F = 50 mA	0.95	1.1	V
I _R	reverse current	V _R = 175 V	–	10	μA
		V _R = 20 V	–	1	μA
C _d	diode capacitance	V _R = 0; f = 1 MHz	0.48	–	pF
		V _R = 1 V; f = 1 MHz	0.35	–	pF
		V _R = 20 V; f = 1 MHz	0.23	0.35	pF
r _D	diode forward resistance	I _F = 0.5 mA; f = 100 MHz; note 1	20	40	Ω
		I _F = 1 mA; f = 100 MHz; note 1	10	20	Ω
		I _F = 10 mA; f = 100 MHz; note 1	2	3.8	Ω
		I _F = 100 mA; f = 100 MHz; note 1	0.7	1.35	Ω
τ _L	charge carrier life time	when switched from I _F = 10 mA to I _R = 6 mA; R _L = 100 Ω; measured at I _R = 3 mA	1.55	–	μs
L _S	series inductance		1.68	–	nH

Note

1. Guaranteed on AQL basis: inspection level S4, AQL 1.0.

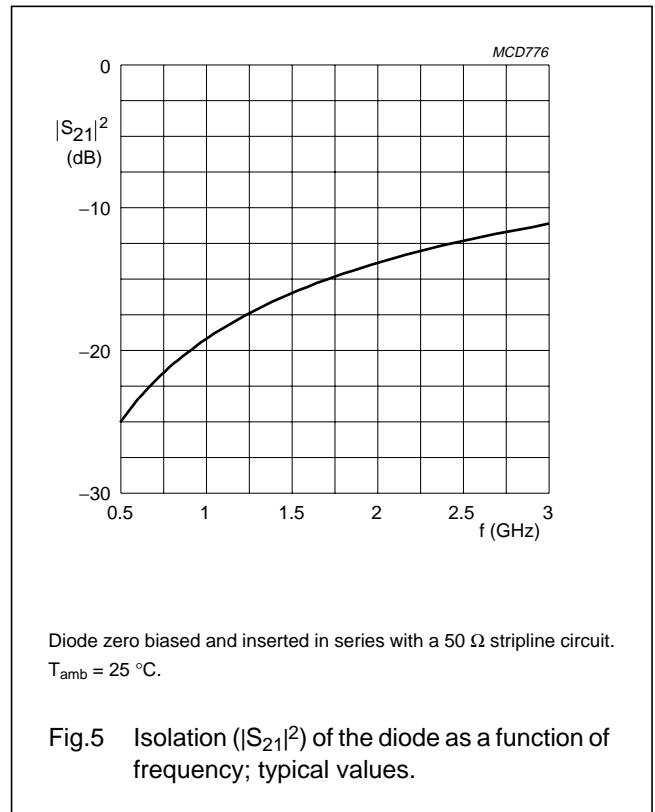
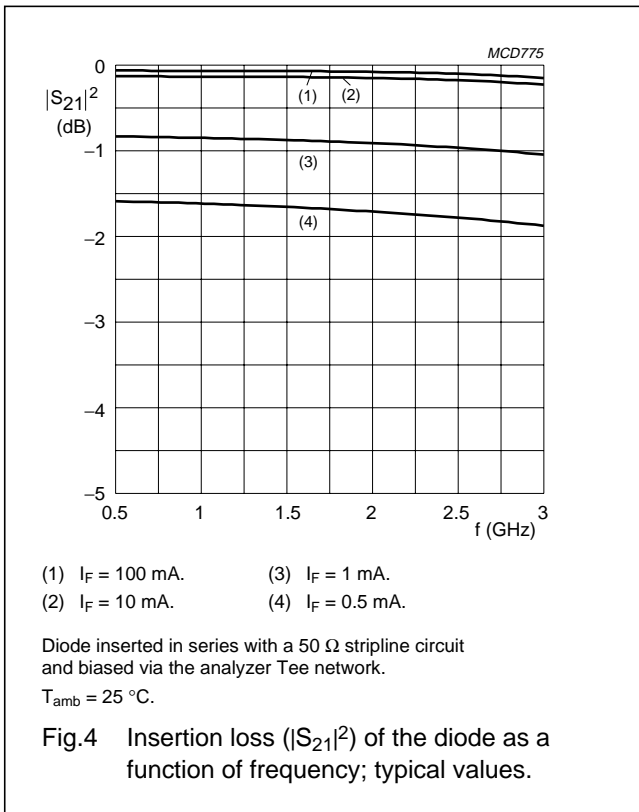
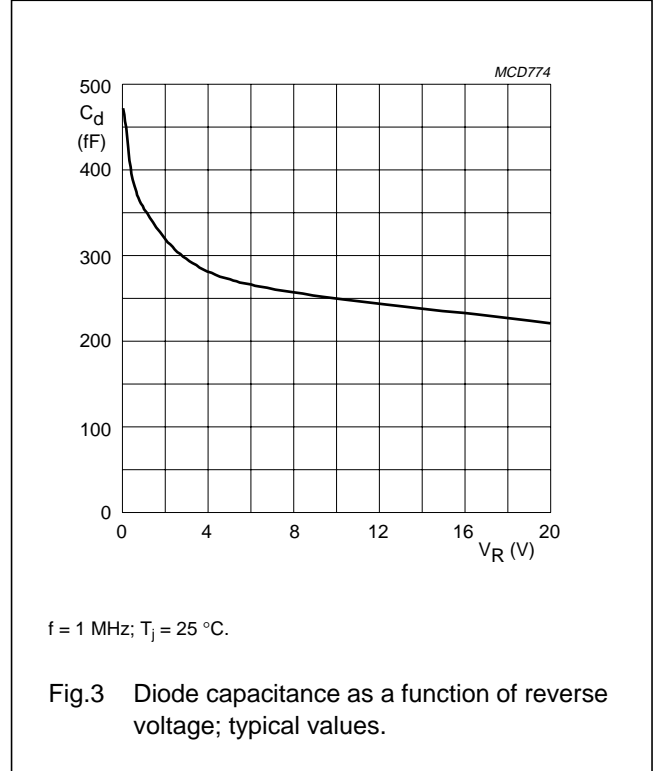
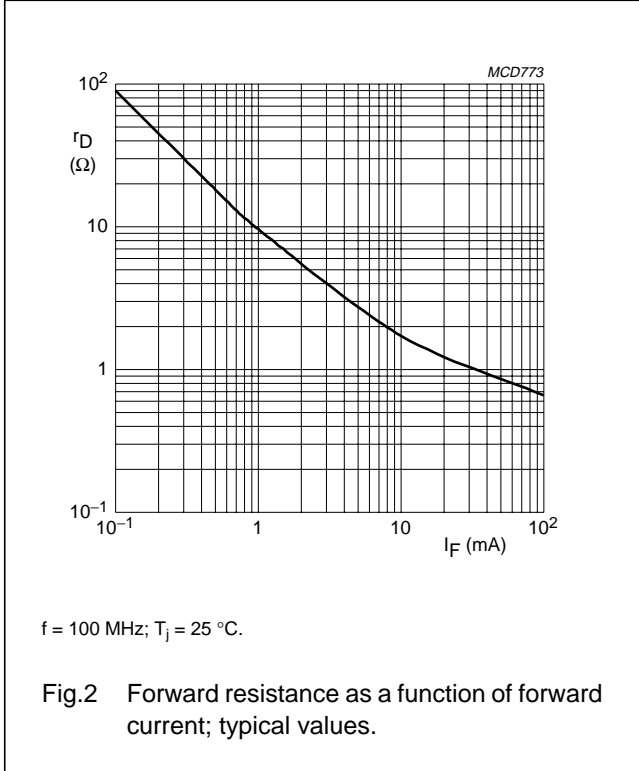
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-s}	thermal resistance from junction to soldering point	120	K/W

Silicon PIN diode

BAP64-03

GRAPHICAL DATA



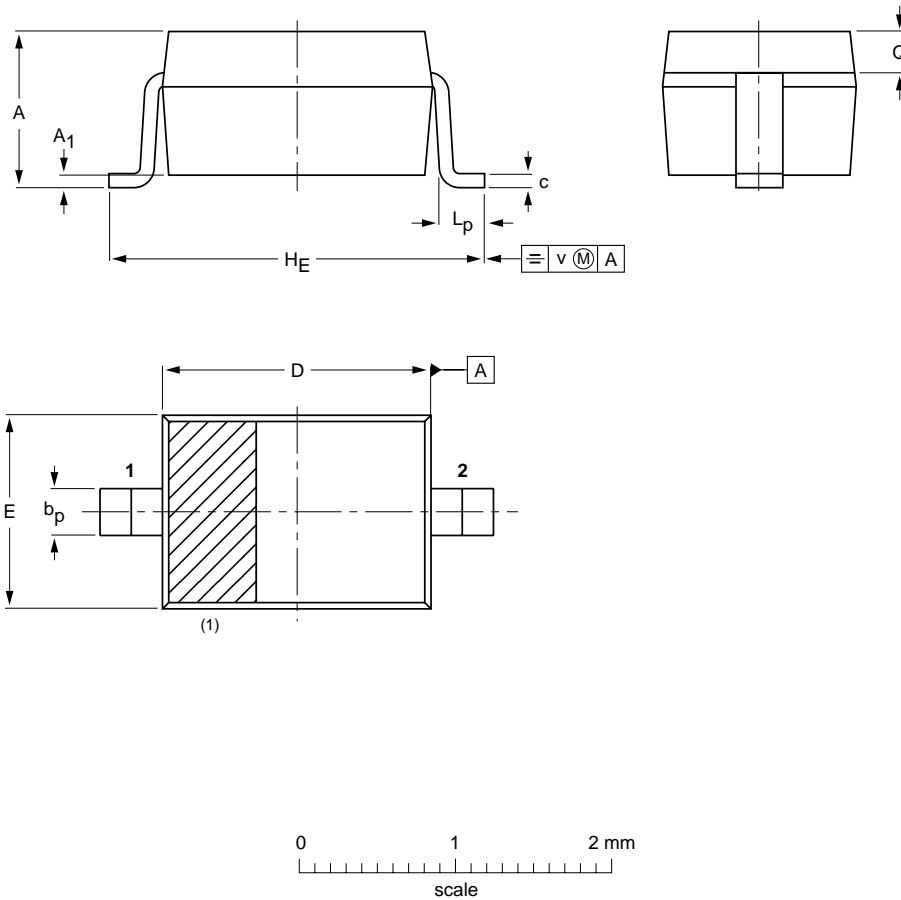
Silicon PIN diode

BAP64-03

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	H _E	L _p	Q	v
mm	1.1 0.8	+0.05 -0.05	0.40 0.25	0.25 0.10	1.8 1.6	1.35 1.15	2.7 2.3	0.45 0.15	0.25 0.15	0.2

Note

1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD323						98-09-14

Silicon PIN diode**BAP64-03**

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

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Silicon PIN diode

BAP64-03

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Argentina: see South America

Australia: 3 Figtree Drive, HOMEBUSH, NSW 2140,
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Austria: Computerstr. 6, A-1101 WIEN, P.O. Box 213,
Tel. +43 1 60 101 1248, Fax. +43 1 60 101 1210

Belarus: Hotel Minsk Business Center, Bld. 3, r. 1211, Volodarski Str. 6,
220050 MINSK, Tel. +375 172 20 0733, Fax. +375 172 20 0773

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Bulgaria: Philips Bulgaria Ltd., Energoproject, 15th floor,
51 James Bourchier Blvd., 1407 SOFIA,
Tel. +359 2 68 9211, Fax. +359 2 68 9102

Canada: PHILIPS SEMICONDUCTORS/COMPONENTS,
Tel. +1 800 234 7381, Fax. +1 800 943 0087

China/Hong Kong: 501 Hong Kong Industrial Technology Centre,
72 Tat Chee Avenue, Kowloon Tong, HONG KONG,
Tel. +852 2319 7888, Fax. +852 2319 7700

Colombia: see South America

Czech Republic: see Austria

Denmark: Sydhavnsgade 23, 1780 COPENHAGEN V,
Tel. +45 33 29 3333, Fax. +45 33 29 3905

Finland: Sinikalliontie 3, FIN-02630 ESPOO,
Tel. +358 9 615 800, Fax. +358 9 6158 0920

France: 51 Rue Carnot, BP317, 92156 SURESNES Cedex,
Tel. +33 1 4099 6161, Fax. +33 1 4099 6427

Germany: Hammerbrookstraße 69, D-20097 HAMBURG,
Tel. +49 40 2353 60, Fax. +49 40 2353 6300

Hungary: see Austria

India: Philips INDIA Ltd, Band Box Building, 2nd floor,
254-D, Dr. Annie Besant Road, Worli, MUMBAI 400 025,
Tel. +91 22 493 8541, Fax. +91 22 493 0966

Indonesia: PT Philips Development Corporation, Semiconductors Division,
Gedung Philips, Jl. Buncit Raya Kav.99-100, JAKARTA 12510,
Tel. +62 21 794 0040 ext. 2501, Fax. +62 21 794 0080

Ireland: Newstead, Clonskeagh, DUBLIN 14,
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Israel: RAPAC Electronics, 7 Kehilat Saloniki St, PO Box 18053,
TEL AVIV 61180, Tel. +972 3 645 0444, Fax. +972 3 649 1007

Italy: PHILIPS SEMICONDUCTORS, Via Casati, 23 - 20052 MONZA (MI),
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Japan: Philips Bldg 13-37, Kohnan 2-chome, Minato-ku,
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Korea: Philips House, 260-199 Itaewon-dong, Yongsan-ku, SEOUL,
Tel. +82 2 709 1412, Fax. +82 2 709 1415

Malaysia: No. 76 Jalan Universiti, 46200 PETALING JAYA, SELANGOR,
Tel. +60 3 750 5214, Fax. +60 3 757 4880

Mexico: 5900 Gateway East, Suite 200, EL PASO, TEXAS 79905,
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Middle East: see Italy

Netherlands: Postbus 90050, 5600 PB EINDHOVEN, Bldg. VB,
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Pakistan: see Singapore

Philippines: Philips Semiconductors Philippines Inc.,
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Metro MANILA, Tel. +63 2 816 6380, Fax. +63 2 817 3474

Poland: Ul. Lukiska 10, PL 04-123 WARSZAWA,
Tel. +48 22 612 2831, Fax. +48 22 612 2327

Portugal: see Spain

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Russia: Philips Russia, Ul. Usatcheva 35A, 119048 MOSCOW,
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Spain: Balmes 22, 08007 BARCELONA,
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Sweden: Kottbygatan 7, Akalla, S-16485 STOCKHOLM,
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Switzerland: Allmendstrasse 140, CH-8027 ZÜRICH,
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Taiwan: Philips Semiconductors, 6F, No. 96, Chien Kuo N. Rd., Sec. 1,
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United Kingdom: Philips Semiconductors Ltd., 276 Bath Road, Hayes,
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United States: 811 East Arques Avenue, SUNNYVALE, CA 94088-3409,
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